516-38
CC
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P8SYS

P8SYS is a program which allows the PDP-8 computer and the DDP-516 computer to communicate via the 516 I/O loop. It gives an operator at the PDP-8 teletype the ability to access the 516 time sharing system in the normal teletype mode plus the ability to transmit programs and data between the two computers in the high speed (2,000 words/sec) burst mode. The portion of P8SYS in the PDP-8 resides in the last page (76008-77558) of memory replacing the DEC binary loader. Thus, it is compatible with DEC software. The majority of P8SYS (14008 words) is in the DDP-516 and contains all the teletype dialogue, command decoding and execution routines. The PDP-8 portion is only concerned with communication.

The first step in accessing the 516 from the PDP-8 is to load P8SYS into the PDP-8 using the card reader or paper tape reader (starting address = 77008). The standard 516 time-sharing system greeting will then be typed out on the PDP-8 teletype asking for the user's password. The password must then be typed in, followed by a carriage return. The 516 TSS will then respond with

PROGRAM?

The user should then type in 8 followed by a carriage return. This is the abbreviation for P8SYS and it will type out

8SYS

The user can now type in commands to save or retrieve programs and data using the 516 file system. The basic structure of the typed in command text string is a command character, followed by an optional blank followed by a string of arguments separated by commas.

Command Strings

F FILENAME,BSA,BEA,BSA,BEA,...SA (file)

Builds a file in the 516 with the name specified by the first argument. It inserts in the file the blocks of PDP-8 program and/or data specified by the pairs of octal PDP-8 addresses (BSA = block starting address, BEA = block ending address). If an odd number of octal addresses are given the last one is assumed to be the program starting address which is also added to the file.

- FILENAME

Deletes the file specified by the first argument.

G FILENAME (get)

Gets a file from the 516 and loads it into the PDP-8.

R FILENAME (run)

Loads the specified file into the PDP-8 and if a program starting address was given when the file was created, the PDP-8 will jump to the specified address. If no starting address was specified the comment "NO SA" is typed out.

L (list)

Lists the names of all the files in the user's directory.

T ADDRESS (transfer)

causes the PDP-8 to jump to the specified octal address.

D ADDRESS (dump)

Starts dumping the core of the PDP-8 in octal format starting from the octal address specified and stopping when the user strikes any teletype key.

O ADDRESS,OW,OW,OW,... (octal Patch)

Loads the string of octal words (OW) into the PDP-8 memory starting at the octal address specified by the first segment.

Q {FILENAME / ADDRESS / NO ARG.} (quit)

Quit performs the same task as R (run) if a file name is given as the argument, or T (transfer) if an octal address is given, but instead of leaving the 516 waiting for more communication from the

PDP-8 the user's thread in the 516 is terminated to avoid tying up some of the 516 memory. If no argument is specified then the 516 thread is just terminated.

E (exit)

Exits to the 516 TSS executive to allow the user to regain access to the rest of the time-sharing system software. The executive will respond by typing "PROGRAM?"

(CR)

Typing in just a carriage return causes the menu of the above command characters to be typed out along with a brief description of their functions.

In the above description of the command strings, a FILENAME can be any number of characters or blanks. It must not include a comma or forward slash. The octal arguments can be any number of octal digits, but if more than four are given only the last four will be used. If less than four are given, leading zeros will be assumed. If a typing error is made the normal 516 TSS input editing features can be used, i.e., typing an @ will delete the last character typed or @@@ will delete the last three characters typed, etc. Typing a control X will cause the whole line to be deleted and the user can then start fresh. In addition, if a mistake is made while typing an octal number the correct value can just be typed since only the last four digits will be used.

Several error comments may be observed. A "?" will be typed out if an unknown command character is encountered or a non-octal digit is found in an octal argument. "FILE?" will be typed out if a file violation occurred such as asking to get (G), a non-existent file. When a build file (F) command is given with a filename that already exists then "OVERWRITE?" will be typed out. At this point if the user wants to overwrite the file then he should type in a Y (for yes) and the file will be overwritten. If he types N then the command string will be ignored.